

REMARKS

This amendment and related remarks that follow are intended to place the subject application in condition for allowance. Amendments to the specification are presented starting on page 3. Specifically, four paragraphs are amended. First, in the paragraph starting on page 2, line 27 and ending on page 2, line 30, the word "area" is added to clarify the second sentence. Second, in the paragraph starting on page 3, line 1 and ending on page 3, line 14, the word "to" is changed to "will" to clarify the first sentence. Third, in the paragraph starting on page 7, line 4 and ending on page 7, line 12, the word "which" is added to clarify the second sentence and the word "is" is added to clarify the fourth sentence. Finally, in the paragraph starting on page 7, line 29 and ending on page 8, line 3, a missing closing quotation mark is added to the word "head." All of these amendments to the specification fix typographical errors; none of these amendments adds new matter. Amendments to the claims are presented starting on page 5. Specifically, claim 1 is amended to fix typographical errors and to better claim the Applicant's invention by clarifying the fact that the force that causes the inner tubular cylinder to deform is backpressure in a fluid that flows within this cylinder, and the fact that it is the second radius of this cylinder that deforms. Claims 13, 16 and 19 are amended to fix typographical errors. Claim 15 is amended to fix typographical errors and to better claim the Applicant's invention by clarifying the fact that the low pressure area exists inside a cavity located at the outlet of the venturi throat, and the fact that the fluid being pumped is drawn into the cavity by the low pressure area in the cavity, and the fact that the nozzle regulator automatically adjusts its output area to further decrease the pressure in the cavity. No new matter is introduced as a result of these claim amendments. In view of these amendments and the following reasoning for allowance, the Applicant hereby respectfully requests further examination of the subject application and allowance of claims 1-20.

1. Rejection of Claims 1-3 Under 35 USC §102(b)

The aforementioned Office Action of March 9, 2006 rejected claims 1-3 of the subject application under 35 USC §102(b) as being anticipated by Strumbos (US Patent

No. 3,605,672). Based on the aforementioned amendments to claim 1, for the reasons discussed below, the Applicant asserts that claim 1 is not anticipated by Strumbos. Therefore, the Applicant respectfully requests further examination and reconsideration of claims 1-3.

More particularly, in claim 1 of the subject application the Applicant claims a nozzle regulator which includes an inner cylinder whose radius **automatically decreases** when a fluid inside the inner cylinder experiences a backpressure. When the backpressure is removed, the radius of the inner cylinder **automatically increases** back to its original size.

In contrast, Strumbos teaches a directional control apparatus made up of a "rigid outer wall or shroud" (refer to column 5, line 18) with inflatable elastic sector members which are "bonded or otherwise suitably attached to the inside surface of [the] shroud ..." (refer to column 5, lines 37-38) **Strumbos also teaches "a controlled inflation and deflation of the inflatable sector members"** (refer to column 5, lines 50-52) where the control is accomplished by a "fluid circuit" which works in conjunction with a "distributing valve" and "supply conduits" which are attached between the distributing valve and each sector member. (refer to column 5, lines 52-58 and FIG. 2) Strumbos further teaches that the "distributing valve can be in operational connection with the helmsman's steering control or the valve can be integrated into the craft's autopilot or automatic steering system." (refer to column 5, lines 59-62) Thus, Strumbos **does not teach automatic inflation and deflation of the sector members** in response to a backpressure applied to the fluid within the inner cylinder formed by the sector members.

A prima facie case of anticipation is established only when the Examiner can show that the cited references teach *each* of the claimed elements of a rejected claim. In this case, based on the remarks presented above, the Examiner has not shown that the Strumbos reference teaches the subject application's claimed feature of a nozzle regulator which includes an inner cylinder whose radius automatically decreases when a fluid inside the inner cylinder experiences a backpressure, and automatically increases back to its original size when the backpressure is removed. Thus, the rejected claims recite a feature that is not taught in the cited art, and as such, a prima facie case of anticipation can not be

established. Accordingly, it is respectfully requested that the rejection of claims 1-3 be reconsidered based on the following novel claim language exemplified in claim 1:

"an inner tubular cylinder having a second radius that is less than the first radius, wherein the outer tubular cylinder and the inner tubular cylinder are concentric about a longitudinal direction, and wherein the inner tubular cylinder is made of a deformable material such that when a fluid within the inner tubular cylinder experiences a backpressure, the second radius automatically decreases, but when the backpressure is removed the second radius automatically increases back to its original dimension;"

In addition, in claim 3 of the subject application the Applicant further claims that the entire nozzle regulator is constructed of a deformable material. In contrast, as discussed above, Strumbos teaches that the apparatus is made up of a rigid outer wall or shroud. Strumbos does not teach that the *entire* apparatus (i.e., *both* the shroud and inflatable sector members) is constructed of a deformable material. Therefore, claim 3 also recites a feature that is not taught in the cited art, and as such, a prima facie case of anticipation can not be established. Accordingly, it is respectfully requested that the rejection of claim 3 be further reconsidered based on its following novel claim language:

"The nozzle regulator as set forth in claim 1, wherein the entire nozzle regulator is constructed of the deformable material."

2. Rejection of Claims 5-7 Under 35 USC §103(a)

The aforementioned Office Action of March 9, 2006 rejected claims 5-7 of the subject application under 35 USC §103(a) as being obvious over Strumbos. More particularly, the Examiner stated that although Strumbos does not specifically disclose the various elements of these claims, "Strumbos does disclose "Kort Nozzles" and how they are a very well known prior art" and that "it would have been obvious to one of ordinary skill in the art at the time the invention was made to use the teachings of Strumbos in combination [with] the [Kort] nozzle teachings" to produce the Applicant's invention as claimed in claims 5-7. Based on the aforementioned amendments to claim 1 and the fact that claims 5-7 are dependent on claim 1, the Applicant respectfully disagrees with this contention of obviousness for the following reasons.

As discussed in section 1 above, in claim 1 of the subject application the Applicant claims a nozzle regulator which includes an inner cylinder whose **radius automatically decreases** when a fluid inside the inner cylinder experiences a **backpressure**. When the backpressure is removed, the **radius** of the inner cylinder **automatically increases back to its original size**. to its original size.

In contrast, as also discussed in section 1 above, Strumbos teaches a directional control apparatus made up of a rigid shroud with inflatable elastic sector members which are bonded to the inside surface of the rigid shroud, where the inflation and deflation of the sector members is a **controlled inflation/deflation**, and where the control is accomplished by additional items that are added to the apparatus such as a fluid circuit, a distributing valve, and supply conduits attached between the distributing valve and each sector member; Strumbos further teaches that these items operate in conjunction with some sort of steering control system which provides the control information that determines which sector members should be inflated or deflated and by how much. Thus, Strumbos **does not teach automatic inflation and deflation** of the sector members in response to a backpressure applied to the fluid within the inner cylinder formed by the sector members. Incorporating the well known prior art of Kort Nozzles does not change or add anything to these teachings of Strumbos.

In order to deem the Applicant's claims unpatentable under 35 USC §103(a), a prima facie case showing obviousness must be made. To make a prima facie case showing obviousness, *all* of the elements of the recited claims must be considered, especially when they are missing from the prior art. If a claimed element is *not* taught in the prior art and has advantages not appreciated by the prior art, then no prima facie case of obviousness exists. The Federal Circuit court has stated that it was an error not to distinguish claims over a combination of prior art references where a material limitation in the claimed system and its purpose was not taught therein (*In Re Fine*, 837 F.2d 107, 5 USPQ2d 1596 (Fed. Cir. 1988)).

In this case, based on the remarks presented above, Strumbos in view of Kort

Nozzles does not teach the subject application's claimed feature of a nozzle regulator which includes an inner cylinder whose radius *automatically* decreases when a fluid within the inner cylinder experiences a backpressure and *automatically* increases back to its original size when the backpressure is removed. Accordingly, no prima facie case of obviousness has been established in accordance with the holding of *In Re Fine*. This lack of prima facie showing of obviousness means that rejected claims 5-7 are patentable under 35 USC §103(a) over Strumbos in view of Kort nozzles. Accordingly, it is respectfully requested that these claims be reconsidered based on the non-obvious claim language exemplified in claim 1, recited in section 1 above.

3. Rejection of Claims 9 and 14 Under 35 USC §103(a)

The aforementioned Office Action of March 9, 2006 rejected claims 9 and 14 of the subject application under 35 USC §103(a) as being obvious over Strumbos. More particularly, the Examiner stated that Strumbos teaches all the elements of these claims with the exception of "an inlet section having a convergent cross-sectional shape that connects the outer cylinder and the inner cylinder at the inlet side such that the fluid enters the nozzle regulator at the inlet section and flows into the fluid passageway," but that "Strumbos does disclose "Kort Nozzles" and how they are a very well known prior art" and that "Kort Nozzles have a convergent cross-sectional shape," so that "at the time of invention it would have been obvious to one of ordinary skill in the art to have an inlet section having a convergent cross-sectional shape that connects the outer cylinder and the inner cylinder at the inlet side such that the fluid enters the nozzle regulator at the inlet section and flows into the fluid passageway, for the purpose of regulating the fluid flow at a constant rate irrespective of the amount of fluid flowing through the tube." The Applicant respectfully disagrees with this contention of obviousness for the following reasons.

In claim 9 of the subject application the Applicant claims an ***automatically deformable nozzle regulator*** which is constructed of a ***deformable material*** (i.e., the *entire* nozzle regulator, including *both* the outer and inner cylinders, is constructed of a deformable material).

In contrast, as discussed in sections 1 and 2 above, Strumbos teaches a directional control apparatus made up of a rigid shroud with inflatable elastic sector members which are bonded to the inside surface of the rigid shroud, where the **inflation and deflation** of the sector members is a **controlled** inflation/deflation, and where the **control is accomplished by additional items that are added to the apparatus** such as a fluid circuit, a distributing valve, and supply conduits attached between the distributing valve and each sector member; Strumbos further teaches that these items operate in conjunction with some sort of steering control system which provides the control information that determines which sector members should be inflated or deflated and by how much. Thus, Strumbos does not teach that the apparatus is *automatically* deformable, nor does Strumbos teach that the apparatus (i.e. the entire apparatus) is constructed of a deformable material.

In summary, based on the remarks presented above, Strumbos does not teach the subject application's claimed feature of an automatically deformable nozzle regulator which is constructed of a deformable material. Accordingly, no prima facie case of obviousness has been established in accordance with the holding of *In Re Fine*. This lack of prima facie showing of obviousness means that rejected claims 9 and 14 are patentable under 35 USC §103(a) over Strumbos. Accordingly, it is respectfully requested that these claims be reconsidered based on the following non-obvious claim language exemplified in claim 9:

"An automatically deformable nozzle regulator, comprising:
wherein the automatically deformable nozzle regulator is constructed
of a deformable material."

4. Rejection of Claim 20 Under 35 USC §103(a)

The aforementioned Office Action of March 9, 2006 rejected claim 20 of the subject application under 35 USC §103(a) as being obvious over the combination of Strumbos and Bernoulli's principle. More particularly, the Examiner stated that Strumbos "explains the working of the nozzle regulator by using the backpressure generated by the fluid that governs the area of the output nozzle," and that "it would have been obvious to one of ordinary skill in the art at the time the invention was made to use Bernoulli's principle to regulate the fluid flow through the regulator for the purposes of wisely using the energy

from the fluid." The Applicant respectfully disagrees with this contention of obviousness for the following reasons.

In claim 20 of the subject application the Applicant claims a method for **automatically** adjusting the output area of a deformable nozzle regulator in which a backpressure of fluid at the regulator causes an output nozzle on the regulator to constrict (i.e., automatically) resulting in a reduction of its output area, and in which a subsequent removal of in the backpressure allows the output area to return to its original size (also automatically). The Applicant also claims that the fluid that flows through the regulator exits at **an output "nozzle."** The term "nozzle" is defined by the Merriam-Webster's OnLine dictionary as a "a projecting vent of something." (refer to Attachment 1) Hence, the Applicant claims a nozzle regulator which contains an output "nozzle" which *projects* from the main body of the regulator. This is reinforced throughout the subject application including element 105 in FIGs 1-3, element 445 in FIG. 4, and the corresponding description of element 445 on page 9, lines 20-22, among other places.

In contrast, as discussed in sections 1-3 above, Strumbos teaches that the output area of the directional control apparatus is **adjusted by a controlled inflation and deflation** of inflatable sector members (refer to section 1 for more detail on how this control operates). Thus, Strumbos does not teach automatically adjusting the output area. In further contrast, in all of the embodiments of the apparatus taught by Strumbos, the fluid output side of the apparatus does not contain an output "nozzle" which ***projects*** from the main body of the apparatus. Rather, Strumbos teaches that the fluid output side of the apparatus is ***flush*** with the main body of the apparatus.

In summary, based on the remarks presented above, Strumbos does not teach the subject application's claimed feature of automatically adjusting the output area of the deformable nozzle regulator where backpressure of fluid at the regulator causes an output nozzle on the regulator to automatically constrict thus reducing its output area, and where a subsequent removal of the backpressure allows the output area to automatically return to its original size. Strumbos also does not teach the subject application's claimed feature of an output nozzle. Bernoulli's principle also does not teach these claimed features. Thus,

the combination of Strumbos and Bernoulli's principle does not teach these claimed features.

Accordingly, no prima facie case of obviousness has been established in accordance with the holding of *In Re Fine*. This lack of prima facie showing of obviousness means that rejected claim 20 is patentable under 35 USC §103(a) over the combination of Strumbos and Bernoulli's principle. Accordingly, it is respectfully requested that this claim be reconsidered based on its following non-obvious claim language:

"A method for automatically adjusting an output area of a deformable nozzle regulator having an inlet side and an outlet side such that fluid flows through the deformable nozzle regulator from the inlet side to the outlet side and exits at an output nozzle, comprising:
constricting the output nozzle using the backpressure to reduce an output area of the output nozzle; and
decreasing the backpressure to allow the output area to return to its original size."

Additionally, the aforementioned controlled inflation feature of Strumbos is of notable significance in that Strumbos' teachings, and stated principal objects and applications, in general, include improvements to the *steering of a vehicle* in a fluid medium such as a boat/ship in water. (refer, for example, to column 1, lines 40-42 and column 2, line 40 – column 3, line 54) All of the objects and applications taught by Strumbos fundamentally require that the directional control apparatus is coupled to, and operates under the control of, a separate steering mechanism contained within the vehicle whose direction is being controlled by an operator of the vehicle. The MPEP (Eighth Edition, Latest Revision October 2005) §2143.01, Part V states that: "If proposed modification would render the prior art invention being modified unsatisfactory for its intended purpose, then there is no suggestion or motivation to make the proposed modification. *In re Gordon*, 733 F.2d 900, 221 USPQ 1125 (Fed. Cir. 1984)" The Applicant asserts that **combining Strumbos and Bernoulli's principle** in the manner suggested by the Examiner, in order to automatically regulate the fluid flow through the apparatus by using the backpressure generated by the fluid, would destroy Strumbos' aforementioned intended fundamental functionality and violate Strumbos' aforementioned principal objects and applications by

interfering with the controls coming from the steering mechanism of the vehicle.

The end result is that Strumbos would be rendered unsatisfactory for its intended purpose as a directional control apparatus.

5. Rejection of Claim 15 Under 35 USC §103(a)

The aforementioned Office Action of March 9, 2006 rejected claim 15 of the subject application under 35 USC §103(a) as being unpatentable over Tash et al. (US Patent No. 4,963,073) in view of Strumbos. More particularly, the Examiner stated that Tash et al. discloses all the elements of claim 15 with the exception of “an automatically deformable nozzle regulator having in fluid communication with the venture throat that automatically adjusts its output area to further decrease pressure at the venture throat,” but that “Strumbos discloses an automatically deformable nozzle regulator” and “it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the teachings of Tash et al. over Strumbos to design a regulated [venturi] pump that is easy to operate and does not require [any] external energy sources and is also very cost efficient because of its simple design.” Based on the aforementioned amendments to this claim, for the reasons discussed below, the Applicant asserts that this claim is patentable as it is not obvious over Tash et al. in view of Strumbos. Therefore, the Applicant respectfully requests further examination and reconsideration of claim 15.

More particularly, in claim 15 of the subject application the Applicant claims an outlet side regulated venturi pump which includes, at its outlet side, an **automatically deformable** nozzle regulator that **automatically adjusts its output area** to further decrease the pressure inside the pump.

In contrast, Tash et al. teaches a water pump which uses water pressure supplied from a garden hose in order to power the pump. Tash et al. further teaches that the entire water pump is **rigidly constructed** (refer to column 2, lines 37-39 which state that “the pump itself is molded of high impact plastic or a like material”). **No part** of the pump taught by Tash et al. **is deformable**. Furthermore, nowhere in Tash et al. is it taught that the pump includes an **automatically deformable nozzle regulator** that automatically adjusts

its output area to further decrease the pressure inside the pump. In fact, the outlet side of the pump taught by Tash et al. contains no nozzle whatsoever (per the definition of the term “nozzle” discussed in section 4 above).

As discussed in sections 1-4 above, **Strumbos also does not teach an *automatically deformable nozzle regulator* that *automatically* adjusts its output area to further decrease the pressure inside the pump.** Rather, Strumbos teaches *controlled* inflation and deflation of inflatable sector members.

Thus, the combination of Tash et al. and Strumbos does not teach the Applicant's claimed *automatically deformable nozzle regulator* that *automatically* adjusts its output area to further decrease the pressure inside the pump. Accordingly, no prima facie case of obviousness has been established in accordance with the holding of *In Re Fine*. This lack of prima facie showing of obviousness means that rejected claim 15 is patentable under 35 USC 103(a) over Tash et al. in view of Strumbos. Accordingly, it is respectfully requested that this claim be reconsidered based on its following non-obvious claim language:

“an automatically deformable nozzle regulator in fluid communication with the venturi throat and cavity that automatically adjusts its output area to further decrease the pressure in the cavity.”

6. Rejection of Claims 1-20 Under 35 USC §103(a)

The aforementioned Office Action of March 9, 2006 further rejected claims 1-20 of the subject application under 35 USC §103(a) as being obvious over Popov (US Patent No. 6,250,890) in view of Blackshear et al. (US Patent No. 3,667,069 – hereafter Blackshear). More particularly, the Examiner stated that Popov discloses all the elements of claims 1-20 with the exception of (a) “the inner tubular cylinder is made of a deformable material; wherein the deformable material comprises a rubber compound,” (b) “the entire nozzle regulator is constructed of the deformable material,” and (c) “backpressure in the fluid within the nozzle regulator cavity generates a constricting force that causes a radius of the inner cylinder to decrease.” The Examiner further stated that “Blackshear discloses a pump that is made of a deformable material and ... is entirely made out of the said

material,” and that “at the time of invention it would have been obvious to one skilled in the art to make the entire nozzle regulator of deformable material ...” The Examiner further stated that “Blackshear ... also provide[s] teachings for the backpressure in the fluid within the nozzle regulator.” The Applicant respectfully disagrees with these contentions of obviousness for the following reasons.

Summarizing the remarks presented in section 1 above, in claim 1 of the subject application the Applicant claims a nozzle regulator which includes an inner cylinder whose radius **automatically decreases** when a fluid within the inner cylinder experiences a backpressure. When the backpressure is removed, the radius of the inner cylinder **automatically increases back to its original size**.

Summarizing the remarks presented in section 3 above, in claim 9 of the subject application the Applicant claims an **automatically deformable nozzle regulator** which is constructed of a **deformable material**.

Summarizing the remarks presented in section 5 above, in claim 15 of the subject application the Applicant claims an outlet side regulated venturi pump which includes, at its outlet side, an **automatically deformable nozzle regulator** that **automatically adjusts its output area** to further decrease the pressure inside the pump.

Summarizing the remarks presented in section 4 above, in claim 20 of the subject application the Applicant claims a method for **automatically adjusting the output area** of a deformable nozzle regulator in which a backpressure of fluid at the regulator causes an output nozzle on the regulator to automatically constrict resulting in a reduction of its output area, and in which a subsequent removal of the backpressure allows the output area to automatically return to its original size. The Applicant also claims that the fluid that flows through the regulator exits at **an output “nozzle.”**

In contrast, Popov teaches a liquid-gas jet apparatus for evacuation/discharge of vapor-gas mediums which generally pertains to the field of vacuum jet technology applied in various industrial processes (refer to column 1, lines 3-6), and more specifically can be applied “especially in the petrochemical industry for vacuum refinement of an oil stock in

rectifying vacuum columns.” (refer to column 3, lines 38-41) Popov further teaches that “the technical problem to be solved by this invention is an increase of reliability of a liquid-gas jet apparatus by provision of a more steady flow of an ejecting liquid medium and reduction of energy losses during interaction of the ejecting medium with an evacuated (passive) medium.” (refer to column 1, lines 33-38) More particularly, Popov teaches an apparatus made up of a “nozzle for feed of an ejecting liquid medium and a mixing chamber” which “includes a collection of shaped channels” where “the collection of channels comprises a central channel placed in alignment to the mixing chamber and a number of peripheral channels uniformly allocated around the central channel” (refer to column 1, lines 40-45), and where an ejecting liquid medium flows into and through the nozzle and entrains a gaseous or vapor-gaseous evacuated medium into the mixing chamber, resulting in the formation of a gas-liquid medium which passes out of the mixing chamber (refer to column 3, lines 27-34). **Popov does not teach that any portion of the apparatus is deformable or changes any of its dimensions** while in operation (under any condition – be it automatic or controlled), or that any part of the apparatus is constructed of a deformable material, or that the apparatus contains an output “nozzle.”

In further contrast, Blackshear generally teaches an implantable cardiac/heart pump device for replacing or assisting a disabled right heart. (refer to Abstract) More particularly, Blackshear teaches “an implantable jet pump cardiac ... right ventricle replacement device” that works “in conjunction with left ventricle support yielding total heart support.” (refer to column 1, lines 8-11) Granted, Blackshear does teach a venturi-type pumping device in which “the pressure source for the driving fluid of the jet pump is the left heart.” (refer to column 2, lines 40-41) However, Blackshear also teaches that “the device is made of substantially rigid, substantially non-flexing material” (refer to column 4, lines 46-47) “which are capable of maintaining the shape and alignment of the parts ...” (refer to column 5, lines 34-36) Hence, Blackshear does not teach that any portion of the device is deformable or changes any of its dimensions while in operation (under any condition – be it automatic or controlled), or that any part of the apparatus is constructed of a deformable material. This is further reinforced by the following Blackshear teachings:

“the driving fluid ... is mixed with the venous blood in the jet pump. The

combined flow is then passed into the pulmonary circulation at the proper head. The pulmonary flow *necessarily exceeds* the systemic flow by an amount equal to the driving flow. This increase in pulmonary flow is not a significant factor, since it has been shown ... that pulmonary flow may be increased three to four fold with little or no increase in pulmonary arterial pressure. However, the magnitude of this driving flow is of importance, and is minimized by careful design. Shunts ... may be used to reduce the volume of flow ..." (refer to column 2, lines 57-69)

"The driving flow rate is dependent solely upon the driving pressure and the driving nozzle diameter and profile ... the driving nozzle velocity depends only upon the driving pressure and nozzle profile, so that the flow rate is governed by the chosen nozzle. No control is necessary." (refer to column 3, lines 14-19).

"Because the driving nozzle diameter is fixed, the driving flow rate is dependent only upon driving pressure." (refer to column 3, lines 38-40)

Hence, Blackshear teaches that there is *no* automatic deformation of the driving nozzle or related automatic control of the flow rate. Additionally, Blackshear does not teach that the device contains an output "nozzle."

Thus, the combination of Popov and Blackshear does not teach the subject application's claimed features of an *automatically deformable* nozzle regulator with an inner cylinder whose radius *automatically* decreases (resulting in a reduction of its output area) when a fluid within the inner cylinder experiences a backpressure, or the feature of the radius of the inner cylinder *automatically* increasing (resulting in an increase in its output area) back to its original size when the backpressure is removed, or the feature of the entire nozzle regulator being constructed of a *deformable* material, or the feature of the nozzle regulator containing an output "nozzle."

Accordingly, no prima facie case of obviousness has been established in accordance with the holding of *In Re Fine*. This lack of prima facie showing of obviousness means that rejected claims 1-20 are patentable under 35 USC 103(a) over Popov in view of Blackshear. Accordingly, it is respectfully requested that these claims be reconsidered based on the following exemplary non-obvious claim language:

In claim 1: "an inner tubular cylinder having a second radius that is less than the first radius, wherein the outer tubular cylinder and the inner tubular

cylinder are concentric about a longitudinal direction, and wherein the inner tubular cylinder is made of a deformable material such that when a fluid within the inner tubular cylinder experiences a backpressure, the second radius automatically decreases, but when the backpressure is removed the second radius automatically increases back to its original dimension;"

In claim 9: "wherein the automatically deformable nozzle regulator is constructed of a deformable material."

In claim 20: "A method for automatically adjusting an output area of a deformable nozzle regulator having an inlet side and an outlet side such that fluid flows through the deformable nozzle regulator from the inlet side to the outlet side and exits at an output nozzle, comprising:
constricting the output nozzle using the backpressure to reduce an output area of the output nozzle; and
decreasing the backpressure to allow the output area to return to its original size."

Additionally, the Applicant asserts that a prima facie case of obviousness cannot be established because Popov and Blackshear are non-analogous art, both compared to each other and compared to the subject application. The MPEP (Eighth Edition, Latest Revision October 2005) §2141.01(a) states:

"In order to rely on a reference as a basis for rejection of an applicant's invention, the reference must either be in the field of applicant's endeavor or, if not, then be reasonably pertinent to the particular problem with which the inventor was concerned." *In re Oetiker*, 977 F.2d 1443, 1446, 24 USPQ2d 1443, 1445 (Fed. Cir. 1992)."

"A reference is reasonably pertinent if, even though it may be in a different field from that of the inventor's endeavor, it is one which, because of the matter with which it deals, logically would have commended itself to an inventor's attention in considering his problem." *In re Clay*, 966 F.2d 656, 659, 23 USPQ2d 1058, 1060-61 (Fed. Cir. 1992)"

"where the general scope of a reference is outside the pertinent field of endeavor, the reference may be considered analogous art if subject matter disclosed therein is relevant to the particular problem with which the inventor is involved. *State Contracting & Eng'g Corp. v. Condotte America, Inc.*, 346 F.3d 1057, 1069, 68 USPQ2d 1481, 1490 (Fed. Cir. 2003)"

The subject application resides in the field of nozzle regulators for use in venturi pumps for pumping an assortment of fluids in industrial, commercial and home applications. The subject application solves problems with existing venturi pumps such as (a) their inability to continue to pump when the fluid level at the outlet of the pump reaches a certain height, (b) reduced pump performance due to debris or other contaminants blocking the secondary inlet, or rigid foreign objects in the fluid being pumped getting lodged in the outlet nozzle – which could completely shut down the pump. (refer for example to published subject application paragraphs [0001, 0002 and 0007]) In contrast, as discussed in detail above, both Popov and Blackshear reside in very different fields of technology and application, and solve very different types of problems as compared to the subject application. More particularly, Popov resides in the field of vacuum jet technology for evacuating vapor-gas mediums in various industrial processes, especially in the petrochemical industry. Blackshear, on the other hand, resides in the medical industry, and more particularly in the field of implantable cardiac/heart pump technology for replacing or assisting a disabled right heart. As such, the Applicant asserts that neither Popov nor Blackshear are relevant to the aforementioned problems that the subject application is concerned with, nor would Popov or Blackshear have commended themselves to the attention of an inventor seeking to solve said problems.

7. Summary

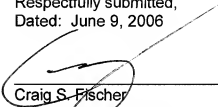
In view of the amendments and remarks presented herein, the Applicant respectfully submits that claims 1-20 of the subject application are in condition for allowance as they are both novel and not obvious over the prior art cited by the Examiner. Accordingly, reconsideration of the rejection of these claims is respectfully requested and allowance of these claims at an early date is courteously solicited.

In an effort to expedite and further the prosecution of the subject application, the Applicant kindly invites the Examiner to telephone the Applicant's attorney at (805) 278-8855 if the Examiner has any comments, questions or concerns, wishes to discuss any aspect of the prosecution of this application, or desires any degree of clarification of this

response.

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Respectfully submitted,
Dated: June 9, 2006



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ATTACHMENT 1

The banner features the Merriam-Webster logo on the left, which consists of a circle containing the words "Merriam-Webster". To the right of the logo, the text "Merriam-Webster OnLine" is displayed in a large, serif font. Below this, there are four smaller buttons: "Merriam-Webster FOR KIDS", "Encyclopædia BRITANNICA", "Merriam-Webster ONLINE", and "Merriam-Webster COLLEGIATE". To the right of these buttons is the text "Merriam-Webster UNABRIDGED". Below the banner, there is a dark bar with the text "Merriam-Webster Online Dictionary" and a "Thesaurus" link on the right.

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nozzle

One entry found for **nozzle**.

Main Entry: **noz·zle** 🗨

Pronunciation: 'nä-zəl

Function: *noun*

Etymology: diminutive of *nose*

1 a : a projecting vent of something **b** : a short tube with a taper or constriction used (as on a hose) to speed up or direct a flow of fluid **c** : a part in a rocket engine that accelerates the exhaust gases from the combustion chamber to a high velocity
2 slang : NOSE

Printed 3/29/06 from: <http://www.m-w.com/dictionary/nozzle>